**IN THE SPECIFICATION**

Rewrite the paragraph that begins at page 3, line 29, as follows:

First, the waveguide connected to the oven is shaped so to not hinder the propagation of microwaves incident toward the oven, namely, the waveguide is shaped so that the cross-sectional area of the port portions of the waveguide at the oven side is greater than the cross-sectional area at the microwave generator side. Namely, the cross-sectional area of the waveguide gradually expands from the microwave generator side toward the oven side to give the waveguide a horn shape, and a prescribed size cone-shaped, pyramid-shaped, bell shaped or other similarly shaped reflector apparatus is provided at a prescribed position inside the waveguide with the bottom of the <u>metal reflection diffusion</u> ~~reflector~~ apparatus facing the oven side to form a structure which does not hinder the propagation of incident microwares from the microwaves generator toward the oven. With this structure, most of the reflected microwaves heading toward the wave-guide from the oven will be reflected again by the bottom of the reflector apparatus and returned to the inside of the oven, and this significantly reduces the reflected microwaves traveling back toward the microwave generator.

Rewrite the paragraph that begins at page 3, line 29, as follows:

Further, by providing the oven with a plurality of microwave introduction ports arranged at opposing positions, it is possible to carry out fine matching and

achieve highly accurate uniform heating. In the case where the microwave introduction ports are arranged at opposing positions, because the microwaves propagate toward opposing microwave introduction portions, there is generally an increase in reflected waves which results in a loss of heating matching. However, this problem is eliminated by the waveguide provided with a reflector apparatus ~~as described in Claim 1 and Claim 7,~~ and the reflection diffusion apparatus ~~described in Claims 3 and Claim 10,~~ which make is possible to significantly reduce reflected waves and significantly improve heating matching.

Rewrite the paragraph that begins at page 4, line 18, as follows:

Further, the microwave heating method ~~of Claim 1~~ may further comprise the step of passing the microwaves incident toward the oven through a straight metal tube having a prescribed length and port portions having the same size and shape as the oven side port portion of the propagation path in order to reduce reflected waves and facilitate heating matching.

Rewrite the paragraph that begins at page 6, line 31 as follows:

Further, the microwave heating apparatus of ~~Claim 7~~ may further include a microwave introduction port formed in the oven; and a straight metal tube having a prescribed length and port portions having the same size and shape as the oven side port portion of the waveguide, with the straight metal tube being connected to the microwave introduction port of the oven.

Rewrite the paragraph that begins at page 7, line 3 as follows:

Further, the straight metal tube of the microwave heating apparatus ~~of Claim 8~~ may be integrally formed with the microwave introduction port of the oven.

Rewrite the paragraph that begins at page 10, line 19, as follows:

1 Oven
1a Oven including flange for introduction port
1b Oven including straight tube for introduction port
2 Mixed <u>metal</u> microwave reflection diffusion apparatus provided in oven
3 Microwave introduction port
4 Waveguide connected to microwave introduction port (or straight tube of Claim 9)
5 Microwave reflector apparatus provided at prescribed position inside waveguide 4
6 Waveguide
7 Microwave generator
8 Connection flange
9 Straight tube connected to microwave introduction port and waveguide 4

Rewrite the paragraph that begins at page 11, line 19 as follows:

[[In]] <u>It</u> has been determined by experiment that in order for most of the microwaves generated from the

microwave generator to flow into the oven, it is important to prevent reflected waves from being generated inside the waveguide connected to the oven ~~as described in Claim 1 and Claim 7~~. Further, from examinations of the cross-sectional areas of the waveguide up to the microwave introduction port in the oven, a comparison of all points along the waveguide revealed that the cross-sectional area of the waveguide at positions toward the oven side must no be smaller that the cross-sectional area of the wave guide at positions toward the microwave generator side. Further, it was confirmed that so long as the cross-sectional area of the waveguide at positions toward the microwave generator side, the shape of the waveguide will not cause reflected waves to be generated. Accordingly, the waveguide connected to the oven can have a shape which does not change from the microwave generator to the oven, or a shape which has an expanding cross-sectional area near the oven. However, this does not make it possible to prevent reflected microwaves for flowing back into the waveguide from the oven.

Rewrite the paragraph that begins at page 13, line 8 as follows:

Further, for the case where a straight tube ~~as described in Claim 2~~ was provided between the oven and the waveguide ~~described in Claim 1 and Claim 7~~, measurements of heating efficiency confirmed further improvement in heating matching. The reason for this is that the straight tube acts as a matching device, and this improves the matching of the microwaves flowing from the microwave generator through the waveguide into the oven and the reflected waves from the oven that have been reflected again by the reflector apparatus. The straight tube can be formed as an integral portion of the waveguide

~~described in Claim 1 and Claim 7,~~ or as an integral portion of the oven. In either case, the straight tube needs to be provided in the propagation path along which the microwaves from the generator are propagated to the oven.

Rewrite the paragraph that begins at page 14, line 1 as follows:

In this connection, a reflection diffusion apparatus was invented to replace the stirrer. Namely, ~~as described in Claim 3 and Claim 10,~~ a fixed reflection diffusion apparatus made of metal is provided. This reflection diffusion apparatus is shaped so as to make it possible for a prescribed ratio of microwaves incident into the oven to undergo reflection diffusion inside the oven. Further, because the reflection diffusion apparatus is shaped so as to make it possible for the major portion of the reflection diffused microwaves to be guided toward the inside of the oven from the position of the reflection diffusion apparatus in the oven, the reflection diffusion apparatus is provided at a position in front of the microwave introduction port at a prescribed distance from the microwave introduction port. In this connection, experiments were repeatedly carried out to find the distance from the microwave introduction port, the ratio of incident microwaves diffused and the shape of the reflection diffusion apparatus, and from the results of such experiments, reflection diffusion apparatuses were developed having a windmill shape ~~like that described Claim 11~~ and a cone shape, bell shape, pyramid shape and other similar shapes ~~like that described in Claim 12~~.

Rewrite the paragraph that begins at page 15, line 1 as follows:

Now, in the case where a plurality of microwave introduction ports are provided in the oven, even when they are provided at opposing positions, because a reflector apparatus is provided inside each waveguide connected to the oven ~~as described in Claim 1 and Claim 7~~, the interference created between mutually facing microwave introduction ports will prevent and increase in reflected waves. Also, as a comparison, it was confirmed that microwave introduction ports provided at opposing positions achieved a higher heating matching than the case where microwave introduction ports were provided at positions not facing each other.

Rewrite the paragraph that begins at page 15, line 10 as follows:

Further, examinations of reflected waves and heating matching were carried out for a system incorporating the subject matter of the present invention ~~as described in Claim 5, Claim 6, Claim 14 and Claim 15,~~ and the following results were obtained. First, from a heating experiment carried out using a stirrer in a prior art system, the occurrence of reflected microwaves was recorded at the high rate of 25% with respect to the incident waves. In contrast with this, experiments revealed that the systems of the present invention ~~Claim 5 and Claim 14~~ recorded an 8% occurrence rate, and the systems of the present invention also ~~Claim 6 and Claim 15~~ recorded a 3% occurrence rate. Furthermore, the systems according to the present invention were able to reach a specific temperature within a shorter heating time, and this shows an improvement in heating matching. Moreover, in the case of heating for the purpose of drying, the present invention makes it possible to eliminate the

scorching of the object being heated that occurs in prior art system due to uneven heating, and in the case of heating for the purpose of thawing, the present invention makes it possible to prevent dripping that occurs in prior art thawing systems due to uneven heating.

Rewrite the paragraph that begins at page 16, line 24 as follows:

Next, under the same conditions described in Specific Embodiment 1, reflected waves were examined for the case where the straight tube ~~of Claim 2~~ was connected between the oven and the horn-shaped waveguide described in Specific Embodiment 1. The results of such examination confirmed a reduction of reflected waves to a level of 0.12 to 0.15kW. Further, an experiment was carried out for the case where the microwave introduction port of the oven was shaped as a regular octagon, where the oven-side port portion of the horn-shaped waveguide had the same regular octagon shape as the octagonal microwave introduction port, and where a regular 8-sided pyramid reflector apparatus was provided inside the waveguide at the same position as that described in Specific Embodiment 1, and the measured reflected waves showed that roughly the same results as those described above were obtained.

Rewrite the paragraph that begins at page 17, line 5 as follows:

Under the same condition described in Specific Embodiment 2, the windmill-shaped reflection diffusion apparatus of Claim 11 was provided in the oven in place of the stirrer. This windmill-shaped reflection diffusion apparatus had 8 vanes which were 240mm long and V-shaped, with the base of the V having a width of 20mm, the angle of the V being 90, and the vertex line of the V facing

the stirrer. This windmill-shaped reflection diffusion apparatus had 8 vanes which were 240mm long and V-shaped, with the base of the V having a width of 20mm, the angle of the V being 90, and the vertex line of the V facing toward the microwave introduction port at a distance of 80mm therefrom. When measurements of reflected microwaves were carried out during heating, a reflection wave level of 0.05kW was recorded. This corresponds to a reflectance of approximately 3% for the case of and incident wave output level of 1.5kW. In this regard, because the reflectance can be called a microwave loss ratio, such results indicate that and extremely efficient heating matching was achieved. As a comparison, it should be noted that in the experiment where the horn-shaped waveguide of Specific Embodiment 1 was connected to the oven, the reflectance could not be reduced below 4% even in the case where a matching device was provided near the microwave generator. Next, under the same conditions, an experiment was carried out to measure the reflected microwaves for the case where the bell-shaped reflection diffusion apparatus ~~of Claim 13~~ was arranged in the oven with the vertex facing the microwave introduction port. This bell-shaped reflection diffusion apparatus had an 80mm diameter bottom and a height of 60mm, and measurements recorded reflected waves at a level of 0.07kW.